

App. No. 09/997,056
Amendment Dated April 3, 2007
Reply to Office Action of January 3, 2007

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REMARKS

The claims have been amended as set forth above. No new matter has been added. Applicants respectfully request allowance of the claims.

I. Examiner Interview Dated April 3, 2007

An interview was held on April 3, 2007. Applicants believe that an agreement was reached that the current amendments push the application over the cited references.

II. Rejection under 35 U.S.C. 101

Claims 19 and 20 are rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter. Examiner Fowlkes suggests changing "computer readable medium" to "computer-readable storage medium." The claims have been amended as set forth above according to the suggestion.

III. Rejection under 35 U.S.C. 102(b)

Claims 1-14 and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,802,371 issued to Meier (hereinafter "Meier"). Applicants respectfully disagree with the rejection. Independent claim 1 includes the following features that are not taught or otherwise suggested by the cited reference:

a plurality of procedures, wherein each procedure comprises a sequence of binary instructions;

a runtime for generating unwind data, wherein the unwind data includes a first plurality of blocks of metadata having a first order of blocks, wherein each block of metadata is associated with a corresponding procedure in the plurality of procedures, wherein each block of metadata in the plurality of blocks of metadata includes at least one unwind table and at least one unwind information block; and

an unwind rewriter programmed to obtain the unwind data and reorder the first plurality of blocks of metadata to generate a second plurality of blocks of metadata having a second order, wherein the unwind rewriter reorders the first plurality of blocks in accordance with a second unwind table and a second unwind information block, wherein the first plurality of blocks are reordered in response to a modification of the sequence of binary instructions within a

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procedure, such that the second plurality of blocks of metadata accurately represents the same runtime semantics as that of the unmodified sequence of binary instructions.

Applicants assert that the cited reference fails to teach or suggest the features of claim 1. Meier teaches directly away from the features of claim 1 as follows:

The invention disclosed herein comprises a method of, and system for, displaying the call stack of a distributed program that uses RPC calls by walking up a call stack for the distributed program. *The present invention does not use a table of who-called-who relations (i.e., processing unit control table or PCB). Instead, the present invention walks up the call stack until it encounters the RPC routine that dispatches the user server routine.* Meier, at col. 2, lines 48-57.

Here, Meier teaches that the software moves up the call stack until it encounters a Remote Procedural Call Routine. At that point, the machine that the user is running on is determined. Furthermore, throughout the Office Action, the features of the claims are mischaracterized and the applicants' own invention is being used against the applicant. For example, on page 9 the term "unwind data" is being analogized to a call stack. This is not a valid analogy. Unwind data may be produced from processing a call stack; however, a call stack is not unwind data. The two are separate features. Applicants can find no teaching of processing unwind data in Meier. Meier teaches away from "wherein each block of metadata in the plurality of blocks of metadata includes at least one unwind table and at least one unwind information block." Meier teaches that "[t]he present invention does not use a table of who-called-who relations." Accordingly, Meier cannot possibly teach "an unwind rewriter programmed to obtain the unwind data and reorder the first plurality of blocks of metadata to generate a second plurality of blocks of metadata having a second order, wherein the unwind rewriter reorders the first plurality of blocks in accordance with a second unwind table and a second unwind information block." Applicants respectfully request reconsideration.

Independent claim 4 includes the following features that are not taught or otherwise suggested by the cited reference:

obtaining original unwind data that describes the original order of the basic blocks, wherein the original unwind data is associated with an unwind table and unwind descriptor records;

regenerating new unwind data from the original unwind data, wherein regenerating new unwind data includes generating new unwind tables and new

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unwind descriptor records, wherein the new unwind data includes a reordering of the original order of basic blocks, and wherein the reordering represents the same runtime semantics as that of the unmodified sequence of binary instructions; and

writing the new unwind data to the modified binary procedure.

For the reasons set forth above, Meier teaches away from "wherein the original unwind data is associated with an unwind table and unwind descriptor records." Meier teaches that "[t]he present invention does not use a table of who-called-who relations." Accordingly, Meier cannot possibly teach "regenerating new unwind data from the original unwind data, wherein regenerating new unwind data includes generating new unwind tables and new unwind descriptor records." Applicants respectfully request reconsideration.

Independent claim 11 includes the following features that are not taught or otherwise suggested by the cited reference:

receiving unwind data comprising an unwind table and a plurality of unwind descriptor records wherein the unwind data is associated with a procedure having binary instructions;

modifying the procedure to perturb the binary instructions of the procedure;
parsing the unwind data to identify a start basic block and an end basic block for a region associated with the procedure; and

rewriting the unwind data, wherein the rewriting of unwind data includes a reordering of unwind data in accordance with a second unwind table and a second plurality of unwind descriptor records such that the rewritten unwind data accurately represents the runtime semantics of the binary instructions before the binary instructions were perturbed.

For the reasons set forth above, Meier teaches away from "receiving unwind data comprising an unwind table and a plurality of unwind descriptor records." Meier teaches that "[t]he present invention does not use a table of who-called-who relations." Accordingly, Meier cannot possibly teach "rewriting the unwind data, wherein the rewriting of unwind data includes a reordering of unwind data in accordance with a second unwind table and a second plurality of unwind descriptor records." Applicants respectfully request reconsideration.

Independent claim 19 includes the following features that are not taught or otherwise suggested by the cited reference:

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receiving unwind data comprising an unwind table and a plurality of unwind descriptor records wherein the unwind data is associated with a procedure having binary instructions;

modifying the procedure to perturb the binary instructions of the procedure;
parsing the unwind data to identify a start basic block and an end basic block for a region associated with the procedure; and

rewriting the unwind data, wherein the rewritten unwind data includes a reordering of the unwind data according to a second unwind table and a second plurality of unwind descriptor records such that the rewritten unwind data accurately represents the runtime semantics of the binary instructions before the binary instructions were perturbed.

For the reasons set forth above, Meier teaches away from "receiving unwind data comprising an unwind table and a plurality of unwind descriptor records." Meier teaches that "[t]he present invention does not use a table of who-called-who relations." Accordingly, Meier cannot possibly teach "rewriting the unwind data, wherein the rewritten unwind data includes a reordering of the unwind data according to a second unwind table and a second plurality of unwind descriptor records." Applicants respectfully request reconsideration.

Independent claim 20 includes the following features that are not taught or otherwise suggested by the cited reference:

obtaining original unwind data that describes the original order of the basic blocks, wherein the original unwind data is associated with an unwind table and unwind descriptor records;

rewriting the original unwind data, wherein the rewritten unwind data includes a reordering of the original order of basic blocks, wherein rewriting the original unwind data includes generating new unwind tables and new unwind descriptor records, and wherein the reordering represents the runtime semantics of the binary procedure before the binary procedure was modified; and

writing the rewritten unwind data to the modified binary procedure.

For the reasons set forth above, Meier teaches away from "wherein the original unwind data is associated with an unwind table and unwind descriptor records." Meier teaches that "[t]he present invention does not use a table of who-called-who relations." Accordingly, Meier cannot possibly teach "rewriting the original unwind data, wherein the rewritten unwind data includes a reordering of the original order of basic blocks, wherein rewriting the original unwind

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data includes generating new unwind tables and new unwind descriptor records." Applicants respectfully request reconsideration.

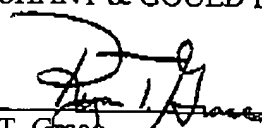
With regard to the dependent claims, the dependent claims include features that are not taught or suggested by the cited reference. Furthermore, in light of their dependency, the dependent claims should be found allowable for at least the same reasons set forth above for their respective independent claims.

IV. Request for Reconsideration

In view of the foregoing, applicants respectfully request a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

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